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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/659,132	09/11/2000	Carl F. Stachew	2964R	4348

7590 12/04/2001
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EXAMINER

JOHNSON, JERRY D

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 12/04/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

A-9-5

Office Action Summary	Application No.	Applicant(s)	
	09/659,132	STACHEW ET AL.	
	Examiner	Art Unit	
	Jerry D. Johnson	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-16, 25, 27 and 28 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Diana et al.

Diana et al, U.S. Patent 5,936,041, teach improved lubricating oil dispersants wherein a fractionating polymer is prepared prior to functionalization for making dispersant additives (abstract). The functionalization is preferably via the Koch reaction, but can be carried out by any other methods suitable for introducing mono- or dicarboxylic acid producing groups into the fractionated polymer, such as by reacting the fractionated polymer with a carboxylic reactant selected from the group consisting of a monounsaturated monocarboxylic acid producing compound and a monounsaturated dicarboxylic acid producing compound (column 5, lines 5-13). Preferred polymers have terminal unsaturation, preferably a high degree of terminal unsaturation (column 7, lines 12-13). The polymer material comprises a fractionated polymer having Mn of from about 700 to 10,000, more preferably from about 800 to 5,000, and most preferably from about 1,000 to 4,000 and a MWD of from about 1.2 to 3, more preferably from about 1.2 to 2.5, and containing less than about 10 mole % (preferably less than about 5 mole %,

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more preferably less than about 3 mole %) of polymer chains having a molecular weight of less than 500 (column 7, lines 56-66). Maleic anhydride is the preferred monounsaturated carboxylic reactant (column 21, lines 38-39). While any effective functionality can be imparted to functionalized, fractionated polymer intended for subsequent derivation, it is contemplated that such functionalities are typically not greater than about 3, preferably not greater than about 2, and typically can range from about 0.5 to about 3, preferably from 0.8 to about 2.0 (e.g. 0.8 to 1). (column 22, lines 15-21). The amine compound can be a heavy polyamine, which is defined as a mixture of higher oligomers of polyalkylene polyamines, having an average of at least about 7 nitrogen atoms per molecule. A preferred heavy polyamine is a mixture of polyethylene polyamines containing essentially no TEPA, at most small amounts of pentaethylene hexamine, and the balance oligomers with more than 6 nitrogens, the heavy polyamine having more branching than conventional commercial polyamines mixtures (column 24, line 61 to column 25, line 8). While Diana et al teach compositions containing less than about 10% of polymer chains having a molecular weight of less than 500 as opposed to the instantly claimed "10 to about 20" mole percent", the term "about" encompasses amounts slightly greater than and slightly less than 10%. Accordingly, Diana et al anticipates claims containing 10% and slightly greater amounts of polymer having a molecular weight of less than 500. Additionally, Diana et al renders obvious compositions containing amounts of polymer having a molecular weight of less than 500 which are slightly greater than, and thus not anticipated by, "about 10%."

Claims 17-24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diana et al as applied to claims 1-16, 25, 27 and 28 above, and further in view of Steckel.

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Diana et al differ from the instant claims in not teaching dispersants wherein the polyamine reactant is the condensed polyamines of the instant claims.

Steckel, U.S. Patent 5,053,152, teaches that improved additives/dispersants for lubricant and fuel compositions are obtained by condensing a hydroxyalkyl or hydroxyaryl compound with an amine compound (abstract). The condensed amines of Steckel correspond to the instantly claimed condensed amines (II)(b). The condensed polyamines may be further reacted with, for example, an acylating agent, to give an even higher molecular weight dispersant (column 2, lines 6-11).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the condensed polyamines of Steckel to form a dispersant as taught by Diana et al because Diana et al teach that those amines, i.e., hydroxyamines, as well as heavy amines containing an average of at least about 7 nitrogen atoms per molecule can be used. See column 24, lines 41+ of Diana et al.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-29 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The specification fails to teach compositions having the claimed amount of low molecular weight polymer chains.

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Applicant's arguments filed September 26, 2001 have been fully considered but they are not persuasive.

Applicant argues that support for the new lower level of the claimed range is found on page 6 of the specification. Applicants' argument lacks merit.

Page 6 of the specification teaches compositions "containing not more than 20 mole percent, preferably not more than 15 mole percent and most preferably not more than 10 mole percent." While the specification may be enabled for the now claimed range, there is no written description of the newly claimed range. In fact, applicants' specification teaches away from the newly claimed range.

Applicants argue

[t]here is no disclosure of a dispersant in which both the hydrocarbyl group is substantially free from the low molecular weight component and the amine moiety is substantially free from components containing fewer than 6 nitrogen atoms.

Applicants' argument lacks merit.

As noted above, Diana et al teach compositions containing less than about 10 mole % (preferably less than about 5 mole %, more preferably less than about 3 mole %) of polymer chains having a molecular weight of less than 500 wherein the amine compound can be a heavy polyamine and is not limited to the specific examples given. Nor is Diana et al limited to the specifically recited hydroxyamines. Accordingly, applicants' argument that "the hydroxylamine disclosed in Diana are different from both those of the present invention as well as the condensed amines of Steckel" also lacks merit.

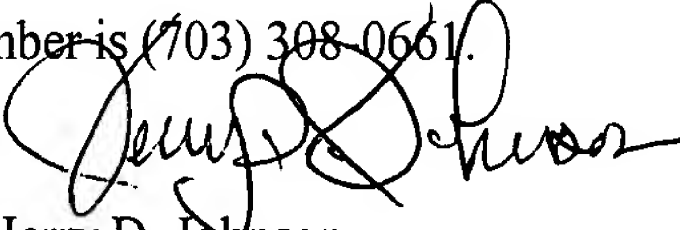
THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry D. Johnson whose telephone number is (703) 308-2515. The examiner can normally be reached on 6:00-3:30, M-F, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marian Knode can be reached on (703) 308-4311. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-5408 for regular communications and (703) 305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


Jerry D. Johnson
Primary Examiner
Art Unit 1764

JDJ
December 1, 2001